

ABSTRACT OF THE DISCLOSURE

A heat transfer system and method for cryoablation includes a cryo-catheter with a tip, and a temperature sensor mounted at the distal end of the cryo-catheter. A system controller is in electronic communication with both a pressure regulator and the temperature sensor. The system takes advantage of the transfer of latent heat to minimize the tip temperature at the distal end of the cryo-catheter. More specifically, after measuring the temperature at the distal end of the cryo-catheter, and comparing the temperature data and input pressure to a known pressure-temperature curve, the input pressure of the liquid fluid refrigerant may be adjusted. At the correct pressure setting, the liquid fluid refrigerant will begin to boil at the distal end of the cryo-catheter, and the tip temperature will be at a minimum.